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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/776,365	02/11/2004	Yoshikatsu Itoh	188-96	3208

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EXAMINER	
MARTIN, LAURA E	

ART UNIT	PAPER NUMBER
2853	

DATE MAILED: 11/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/776,365	ITOH ET AL.	
	Examiner	Art Unit	
	Laura E. Martin	2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 October 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *3-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *3-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

Claims 4 and 6 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The specification does not disclose a printing system having only four colors or only five colors, but rather a printing system having at least four colors or at least five colors.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 3, 4, 6, 9, 11, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hilgenfeld et al. (US 6391388) in view of Tomioka et al. (US 20020062762).

Hilgenfeld et al. discloses the following claim limitations:

As per claim 4: an image reproduced using at least five color of inorganic pigments provided as colorants which are magenta ink of gold purple and red ink of

cadmium red as red components, as well as yellow ink of cadmium yellow and cyan ink of cobalt aluminum chrome blue, and black ink (column 5, lines 6-10) on a base material, and thereafter performing baking (column 4, lines 45-65).

As per claim 6: an ink jet printing method which comprises printing on a base material, using an ink set comprising form inks of inorganic pigments provided as colorants which are magenta ink of gold purple as red component, red ink of cadmium red as a red component, yellow ink and cyan to form an image on a base material (column 5, lines 6-10), and thereafter performing baking (column 4, lines 45-65)

As per claim 3: an ink jet printing method wherein said yellow ink is cadmium yellow ink and said cyan ink is cobalt aluminum chrome blue ink (column 5, lines 6-10).

As per claim 9: a printed matter obtained by the method of claim 6 (column 6, lines 10-11).

As per claim 11: separately ejecting onto the base material each of the five ink colors of the inorganic pigments as colors selected from magenta ink of gold purple and red ink of cadmium red as red components, yellow ink of cadmium ink, cyan ink of cobalt aluminium chrome blue, and black ink, to form an image on the base material (column 5, lines 6-10) and thereafter performing baking (column 4, lines 45-65).

As per claim 12: the four ink colors taught in claim 6 (column 5, lines 6-10) ejected onto a base media.

Hilgenfeld et al. does not disclose the following claim limitations:

As per claim 4: five colored inks each provided separately to print an image.

As per claim 6: four colored inks each provided separately to print an image.

As per claim 11: separately ejecting onto the base material each of the five ink colors.

As per claim 12: ejecting four color inks separately.

Tomioka et al. discloses the following claim limitations:

As per claim 4: five colored inks each provided separately to print an image (figure 12, elements 1201Y, 1201M, 1201C, and 1201L) and (claim 16 – any of the listed inks can be selected to form an ink set).

As per claim 6: four colored inks each provided separately to print an image (figure 12, elements 1201Y, 1201M, 1201C, and 1201L) and (claim 16 – any of the listed inks can be selected to form an ink set).

As per claim 11: separately ejecting onto the base material each of the five ink colors (figure 12, elements 1201Y, 1201M, 1201C, and 1201L) and (claim 16 – any of the listed inks can be selected to form an ink set).

As per claim 12: ejecting four color inks separately (figure 12, elements 1201Y, 1201M, 1201C, and 1201L) and (claim 16 – any of the listed inks can be selected to form an ink set).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the methods taught by Hilgenfeld et al. with the disclosure of Tomioki et al. in order to provide a higher quality printed image.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hilgenfeld et al. (US 6391388) and Tomioka et al. (US 20020062762), and further view of Minami (US 6741386).

Hilgenfeld et al. disclose the following claim limitations:

As per claim 5: a black ink (column 2, line 61).

Hilgenfeld et al. as modified does not disclose the following claim limitations:

As per claim 5: a cobalt ferrite black ink.

Minami discloses the following claim limitations:

As per claim 5: a cobalt ferrite black ink (column 9, lines 1-8).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the method taught by Hilgenfeld et al. as modified with the disclosure of Minami in order to create a higher quality baked color.

Claim 7, 8, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hilgenfeld et al. (US 6391388) and Tomioka et al. (US 20020062762), and further view of Oishi et al. (JP 2001081363).

Hilgenfeld et al. discloses:

As per claim 7: the base material is an inorganic material (column 4, lines 45-65)) and the ink receptor layer is formed using glass frit on a surface of the basematerial (column 3, lines 44-55).

Hilgenfeld et al. as modified does not disclose:

As per claim 7: using glass frit on a surface of the base material prior to inkjet recording.

As per claim 8: after printing and image formation on the base material using an ink jet, all of the inorganic pigments are baked simultaneously to the base material by a single baking operation.

As per claim 10: after the printing and image formation on the base material using an ink jet, all of the inorganic pigments are baked simultaneously by as single baking operation.

Oishi et al. discloses:

As per claim 7: using glass frit on a surface of the base material prior to inkjet recording [0008].

As per claim 8: after printing and image formation on the base material using an ink jet, all of the inorganic pigments are baked simultaneously to the base material by a single baking operation [0025-0026].

As per claim 10: after printing and image formation on the base material using an ink jet, all of the inorganic pigments are baked simultaneously by as single baking operation [0025-0026].

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the ink set taught by Hilgenfeld et al. as modified with the disclosure of Oishi et al. in order to provide an easy method of transferring ink to the base material.

Response to Arguments

Applicant's arguments filed 10/16/06 have been fully considered but they are not persuasive.

In response to applicant's arguments, the recitation "an ink jet printing method" has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

While the applicant argues that Hilgenfeld et al. fails to teach or disclose an ink jet printing method, the independent claims only disclose the use of ink jet printing in the preamble of the claim. However, newly cited Tomioki et al. discloses an ink jet recording method [0004]. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Hilgenfeld et al. with Tomioki et al. because inks of any color and type (pigment or dye, organic or inorganic) can be used in an ink jet printer.

Tomioki et al. also discloses inks being printed separately (shown in figure 12).

Applicant argues that Oishi is silent on red inorganic pigments used and fails to disclose a four or five color ink set; however, the inks are taught by Hilgenfeld et al., and Tomioki et al. discloses ink sets of four or five colors. It would have been obvious of one

having ordinay skill in the art to modify the base references with Oishi in order to provide a higher quality image.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura E. Martin whose telephone number is (571) 272-2160. The examiner can normally be reached on Monday - Friday, 7:00 - 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D. Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Laura E. Martin

11/21/06

MANISH S. SHAH
PRIMARY EXAMINER